

**Notice of Allowability**

Application No.

10/086,597

Examiner

Cam Y T. Truong

Applicant(s)

LANZATELLA ET AL.

Art Unit

2162

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to \_\_\_\_.
2. ☒ The allowed claim(s) is/are 41,43-48,50-55 and 57-60.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_
- ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- ☐ Notice of Informal Patent Application (PTO-152)
- ☒ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_
- ☒ Examiner's Amendment/Comment
- ☒ Examiner's Statement of Reasons for Allowance
- ☐ Other \_\_\_\_

### **DETAILED ACTION**

1. Applicant has amended claims 41, 43-48, 50, 53-55, 57, 59-60 and canceled claims 42, 49, 56 in the amendment filed on 11/21/2005.

Claims 41, 43-48, 50-55, 57-60 are pending in this Office Action.

### **EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney Noel Kivlin on 11/22/2005.

Please replace claims 41, 43, 46, 48, 50, 53, 55, 57 and 59 with claims 41, 43, 46, 48, 50, 53, 55, 57 and 59.

41. (Currently Amended) A system for backing up data, comprising:

- a first computing device and a second computing device;

- a first storage medium and a second storage medium;

- wherein the first computing device is configured to:

  - initiate a backup operation of a set of data;

  - send a logical representation of a frozen image of the set of data to the second computing device, wherein the logical representation includes a first mapping of a portion of the frozen image to a first region of the first storage medium; and

- wherein the second computing device is configured to complete the backup operation using the frozen image, wherein said completing includes:

  - receiving the logical representation;

  - prior to backing up data of the portion of the frozen image, determining whether the first mapping of the portion of the frozen image remains valid using a validity identification;

  - in response to determining that the first mapping is no longer valid, obtaining an updated mapping of the portion of the frozen image;

  - accessing data of the portion of the frozen image from the first storage medium using the updated mapping; and

  - backing up the data of the portion of the frozen image to the second storage medium; and

in response to determining that the first mapping remains valid, accessing data of the portion of the frozen image from the first storage medium using the first mapping; and backing up the data of the portion of the frozen image to the second storage medium.

43. (Currently Amended) The system as recited in claim 41, wherein the validity identification is a configuration identifier.

46. (Currently Amended) The system as recited in claim 41, wherein the first storage medium and the second storage medium are linked to the second computing device via a storage area network (SAN), and wherein the second computing device is configured to use input/output operations provided by an operating system in use at the second computing device to access the first storage medium and the second storage medium.

48. (Currently Amended) A computer readable medium comprising program instructions to implement a backup service, wherein the instructions are computer executable to:

initiate a backup operation of a set of data from a first computing device;  
send a logical representation of a frozen image of the set of data from the first computing device to a second computing device, wherein the logical representation includes a first mapping of a portion of the frozen image to a first region of a first storage medium; and

complete the backup operation from the second computing device using the frozen image, wherein said completing includes:

receiving the logical representation;

prior to backing up data of the portion of the frozen image, determining whether the first mapping of the portion of the frozen image remains valid using a validity identification;

in response to determining that the first mapping is no longer valid, obtaining an updated mapping of the portion of the frozen image;

accessing data of the portion of the frozen image from the first storage medium using the updated mapping; and

backing up the data of the portion of the frozen image to a second storage medium; and

in response to determining that the first mapping remains valid, accessing data of the portion of the frozen image from the first storage medium using the first mapping; and backing up the data of the portion of the frozen image to the second storage medium.

50. (Currently amended) The computer readable medium as recited in claim 48, wherein validity identification is a configuration identifier.

53. (Currently amended) The computer readable medium as recited in claim 48, wherein the first storage medium and the second storage medium are linked to the

second computing device via a storage area network (SAN), and wherein the instructions are further computer executable to use input/output operations provided by an operating system in use at the second computing device to access the first storage medium and the second storage medium.

55. (Currently Amended) A method for backing up data comprising:

- initiating a backup operation of a set of data from a first computing device;
- sending a logical representation of a frozen image of the set of data from the first computing device to a second computing device, wherein the logical representation includes a first mapping of a portion of the frozen image to a first region of a first storage medium; and
- completing the backup operation from the second computing device using the frozen image, wherein said completing includes:
  - receiving the logical representation;
  - prior to backing up data of the portion of the frozen image, determining whether the first mapping of the portion of the frozen image remains valid using a validity identification;
  - in response to determining that the first mapping is no longer valid, obtaining an updated mapping of the portion of the frozen image;
  - accessing data of the portion of the frozen image from the first storage medium using the updated mapping; and

backing up the data of the portion of the frozen image to a second storage medium; and

in response to determining that the first mapping remains valid, accessing data of the portion of the frozen image from the first storage medium using the first mapping; and backing up the data of the portion of the frozen image to the second storage medium.

57. (Currently amended) The method as recited in claim 55, wherein the validity identification is a configuration identifier.

59. (Currently amended) The method as recited in claim 55, wherein the first storage medium and the second storage medium are linked to the second computing device via a storage area network (SAN), further comprising:

using input/output operations provided by an operating system in use at the second computing device to access the first storage medium and the second storage medium.

**Allowable Subject Matter**

3. Claims 41, 43-48, 50-55 and 57-60 are allowed.

The prior art of record, alone or in combination, does not teach or fairly suggest the combination of steps as recited in independent claims 41, 48, and 55 wherein "prior to backing up data of the portion of the frozen image, determining whether the first mapping of the portion of the frozen image remains valid using a validity identification; in response to determining that the first mapping is no longer valid, obtaining an updated mapping of the portion of the frozen image; accessing data of the portion of the frozen image from the first storage medium using the updated mapping; and backing up the data of the portion of the frozen image to a second storage medium; in response to determining that the first mapping remains valid, accessing data of the portion of the frozen image from the first storage medium using the first mapping; and backing up the data of the portion of the frozen image to the second storage medium.

The dependent claims, bring definite, further limiting, and fully enabled by the specification are also allowed.




### Contact Information

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cam Y T. Truong whose telephone number is (571) 272-4042. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Cam Y T Truong  
Examiner  
Art Unit 2162  
11/23/2005